

**REMARKS/ARGUMENTS****I. Introduction**

Receipt is acknowledged of the Non-Final Office Action dated March 26, 2003. Claims 10-12 were canceled in Applicant's Preliminary Amendment and Response to Restriction Requirement filed March 13, 2003. Currently, claims 1-9 remain pending in the application. Claim 1 is canceled herewith. Amended Claim 2 claims additional features disclosed in the specification and described below. No new matter is added in the amendments, which are fully supported by the specification. In the specification, the paragraph beginning at page 6, line 13 has been replaced to correct a minor grammatical error.

**II. Examiner's Rejections****A. Rejections Under 35 U.S.C. § 102(b)**

1. The Examiner has rejected claims 1-5 under 35 U.S.C. § 102(b) as being anticipated by Dixon (U.S. Patent No. 4,508,138), alleging that Dixon discloses an atomizing apparatus comprising: an outer cylinder 73, 93; an outlet 82; an inlet 71; a chamber 72; and an inner cylinder 74, 79.

2. The Examiner has rejected claims 1-6 and 9 under 35 U.S.C. § 102(b) as being anticipated by Heath et al. (U.S. Patent No. 4,099,673), alleging that Heath et al. disclose an atomizing apparatus comprising: an outer cylinder 12; an outlet 16; an inlet 34; a chamber 58; an inner cylinder 14; a plurality of pressure-leakage preventing members 90, 92, 98, 100, 106, 108; and a screw 22, which is connected to the inner cylinder 14 when inner cylinder 14 is abutting screw 22.

**B. Rejections Under 35 U.S.C. § 103**

1. The Examiner has rejected claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Dixon (U.S. Patent No. 4,508,138) in view of Benton (U.S. Patent No. 329,881). According to the Examiner, Dixon discloses the limitations of the claimed invention with the exception of the water passage, while Benton teaches a water passage d4. The Examiner argues that it would have been obvious to a person having ordinary skill in the art at the time of the invention to have combined the device of Dixon with the water passage as taught by Benton, to thaw fluid.

2. The Examiner has rejected claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Dixon in view of Young et al. (U.S. Patent No. 6,012,646). According to the Examiner, Dixon discloses the limitations of the claimed invention with the exception of the conduit passage, while Young et al. teach a conduit passage (un-numbered, passage showing check valve) and a material supply port 24. The Examiner argues that it would have been obvious to a person having ordinary skill in the art at the time of the invention to have combined the device of Dixon with a conduit passage and supply port as taught by Young et al. to prevent over-pressurization.

Although made of record, but not relied upon, the Examiner cited Blair (U.S. Patent No. 3,853,146) for teaching various sized flow passages and Fowden (U.S. Patent No. 944,026) and Pettus (U.S. Patent No. 5,074,519) for teaching a valve having inner and outer cylinders.

**III. Applicant's Response to the Examiner's Rejections****A. Rejections Under 35 U.S.C. § 102(b)**

Applicant asserts that the Examiner's rejection of claims 1-5 under 35 U.S.C. § 102(b), as anticipated by Dixon and the Examiner's rejections of claims 1-6 and 9 under 35 U.S.C. § 102(b), as being anticipated by Heath et al. (U.S. Patent No. 4,099,673), are rendered moot with the cancellation of claim 1 and amendment to claim 2. Amended claim 2 recites the elements of canceled claim 1, and the diameter of each group of holes located in the inner cylinder of the claimed invention, i.e., .8 mm, .5 mm, and .2 mm, respectively. The amendments are fully supported in the specification at page 2, lines 1-7 and page 4, lines 2, 3, and 5, wherein the dimensions of the holes are described.

Applicant notes that neither Dixon nor Health et al. disclose or claim specific diameter dimensions of holes, apertures, or openings within an inner chamber of a cylinder. The Examiner's rejections of claims 1-5 under 35 U.S.C. § 102(b) as anticipated by Dixon and claims 1-6 and 9 as anticipated by Health et al. are thereby rendered moot with the above-described claim amendments and comments. No new matter has been added by these amendments. Thus, Applicant believes that claim 2, as amended, renders the present invention allowable and patentable over the prior art, and that claims 3-6 and 9, which depend from claim 2, are now also in condition for allowance.

**B. Rejections Under 35 U.S.C. § 103(a)**

Applicant traverses the Examiner's rejections of claims 7 and 8 under 35 U.S.C. § 103(a). In further response, Applicant amends claims 7 and 8 to independently claim the features of canceled claim 1, which are described in the specification at page 2, lines 1-7.

However, Applicant respectfully submits that the Examiner's rejections fail to establish a *prima facie* case of obviousness based on any combination of Dixon and Benton or Dixon and Young et al. under § 103. To establish a *prima facie* case of obviousness under 35 U.S.C. § 103, three basic criteria must be met: 1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine the reference teachings; 2) there must be a reasonable expectation of success upon combining such references; and 3) the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). *See* M.P.E.P. § 2142.

The Examiner has not shown any motivation to combine Dixon with Benton, or a reasonable expectation of success upon combining Dixon and Benton. When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the Examiner to explain why the combination of the teachings is proper. *Ex parte Skinner*, 2 U.S.P.Q.2d 1788 (Bd. Pat. App. & Inter. 1986). "The mere fact that references can be combined or modified does not render the resultant combination obvious, unless the prior art also suggests the *desirability* of the combination." M.P.E.P. § 2143.01 (citing *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990) (emphasis applied)). The motivation of the Dixon patent is different from the Benton patent and from the present invention. The object of the Dixon patent is to provide a polyjet valve with a fluid backwash feature while the object of the Benton patent is to instantly thaw frozen hydrant or water-pipes, by injecting a jet of steam through a smaller tube inserted into the frozen hydrant or a water-pipe. The Benton patent does not disclose a

means by which the water-pipe passageway affects thawing through controlled temperature regulation. Furthermore, the Benton patent was disclosed in 1885 and does not seem to be commonly used in the prior art. In contrast, the purpose of the water passage 25 of the present invention is to produce an atomization process through controlled temperature regulation (see page 6, lines 1-9). Thus, the Examiner has not shown that by combining a smaller insertable water-pipe tube as taught by Benton with the polyjet valve taught in Dixon, that a reasonable expectation of success of controlling an atomization process through temperature regulation could be accomplished, as in the present invention. Therefore, it would not be reasonable to expect the combination of Dixon and Benton's teachings to produce the claimed invention.

The Examiner also has also not shown any motivation to combine the Dixon patent with the Young et al. patent, or a reasonable expectation of success of producing the claimed invention, upon combining Dixon and Young et al. references. "A prior art reference must be considered in its entirety, *i.e.*, as a whole, including portions that would lead away from the claimed invention." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) (emphasis applied). An inquiry that focuses on [mere] substitutions and differences, instead of the invention as a whole, is legally improper. *See Hybritech v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1383, 231 U.S.P.Q. 81, 93 (Fed. Cir. 1986). The Examiner has claimed that the missing conduit and supply port of the Dixon device may be supplied by the conduit and supply port taught in the Young et al. patent. However, the objects of the Dixon and Young et al. patents are different from each other and from the object of the present invention. The purpose of the Dixon patent is to provide a polyjet valve with a fluid backwash while the purpose of the Young et al. patent is provide an improved fuel delivery system for auxiliary vehicle heaters and gear pumps, which significantly

reduces the risks of fuel spillage in high pressure systems. In contrast, the purpose of the present invention is to provide a conduit passage for the purpose of high pressure atomization processing through recurrent atomizing. The Examiner has not shown how combining the fuel pump conduit and supply port taught by Young et al. with the polyjet valve taught by Dixon would be desirable in producing the claimed invention or a reasonable expectation of success of the claimed invention.

Applicant does not address the prior art references Blair (U.S. Patent No. 3,853,146), Fowden (U.S. Patent No. 944,026), or Pettus (U.S. Patent No. 5,074,519) because they are not relied upon by the Examiner in making the rejections of record.

#### IV. Conclusion

In consideration of the above amendments and remarks, Applicant respectfully requests that a timely Notice of Allowance be issued in this application. Should there be any questions, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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